Port Additional Characteristics Configuration Commands

Table of Contents

Chapter 1 Port Additional Characteristics Configuration Commands

1.1 Configuring Storm Blocking

Syntax

To configure a port not to forward a designated type of packets, run the following command.

[**no**] **switchport block** {*unicast | multicast | broadcast* }

Parameters

Parameters	Description
unicast	Means that the unknown unicast frame is not forwarded on a port.
multicast	Means that the multicast frame is not forwarded on the port.
broadcast	Means that the broadcast frame is not forwarded on the port.

Default Value

All types of packets can be forwarded by default.

Command Mode

Interface configuration mode

Usage Guidelines

The command must be configured in PON port or the uplink port configuration mode.

Example

The following example shows how to configure port g0/1 not to forward the unknown unicast frame.

Switch_config# interface GigaEthernet0/1
Switch_config_g0/1#switchport block unicast

1.2   Configuring Port Isolation

1.2.1   port-protected

Syntax

To configure a port isolation group and enter the port isolation configuration mode, run the following command.

[no] port-protected *group-id*

Parameters

Parameters	Description
group-id	Configures port isolation group 1 to 16.

Default Value

Created isolation group 1, port-protected 1

Command Mode

Global configuration mode

Usage Guidelines

The command can be used to configure the group isolation in global configuration mode.

Example

The following example shows how to set ID of the isolation group to 2.

Switch_config#port-protected 2

1.2.2   description

Syntax

To set the port isolation group description, run this command.

description *word*

To delete the description, use the no form of this command.

no description

Parameters

Parameters	Description
Word	Sets the port isolation description.The description covers 31 characters at most.

Default Value

None

Command Mode

Interface isolation group configuration mode

Usage Guidelines

The command can be used to describe the group in the isolation group configuration mode.

Example

The following example shows how to set ID of the isolation group g1 to 1.

Switch_config# port-protected 1

Switch-config-p1#description g1

1.2.3   switchport protected

Syntax

To set port isolation, run this command.

switchport protected *group-id*

To return to the default setting, use the no form of this command.

[no] switchport protected

Parameters

Parameters	Description
group-id	Selects the port isolation group 1 to 16.

Default Value

Non-isolated uplink port

PON port belongs to the isolation group 1, switchport protected 1

Command Mode

Interface configuration mode

Usage Guidelines

Configure the command in PON port or the uplink port.

Example

The following example shows how to set isolation of port g0/1 and port g0/8.

Switch_config# interface GigaEthernet0/1

Switch_config_g0/1#switchport protected

Switch_config# interface GigaEthernet0/8

Switch_config_g0/8# switchport protected 1

1.3   Configuring the Storm Control

Syntax

To configure flow control for a port, run storm-control {broadcast | multicast | unicast} threshold count.

storm-control {**broadcast** | **multicast** | **unicast**} **threshold** *count*

no storm-control {**broadcast** | **multicast** | **unicast**} **threshold**

Parameters

Parameters	Description
broadcast | multicast | unicast	Defines broadcast/multicast/unicast storm control.
threshold count	That is, it defines the threshold flux of the storm. 1-262143pps

Default Value

The storm control function is disabled by default.

Command Mode

Interface configuration mode

Usage Guidelines

The command must be configured in PON port or the uplink port configuration mode.

Example

The following example shows how to set the unknown unicast-frame storm to 20pps on port g0/1.

Switch_config#interface GigaEthernet0/1

Switch_config_g0/1#storm-control unicast threshold 20

1.4 Configuring Switchport Rate Limit

Syntax

To configure the rate limit for a port, run this command.

switchport rate-limit {band | bandwidth rate} {ingress|egress} [burst-size {high | middle | low}]

To return to the default setting, use the no form of this command.

no switchport rate-limit   {ingress|egress}

Parameters

Parameters	Description
band	Means the rate of the flow. 1-16384. The step length is 64Kbps.
rate	Means the percentage of the flow. 1-100, unit 1%
ingress	Functions on the ingress port.
egress	Functions on the egress port.

Default Value

The rate of the port is not limited by default.

Command Mode

Interface configuration mode

Usage Guidelines

The command must be configured in PON port or uplink port configuration mode

Example

The following example shows how to set the incoming flow rate to 1M on port g0/1.

Switch_config#interface GigaEthernet0/1

Switch_config_g0/1#switchport rate-limit 16 ingress

1.5   Configuring Port Loop Check

Syntax

To configure the interval for a port to transmit the loop check packets, run keepalive second.

keepalive [second]

no keepalive

Parameters

Parameters	Description
Second	Interval, unit: second.

Default Value

12 seconds

Command Mode

UP interface configuration mode

Usage Guidelines

The command must be configured in uplink interface configuration mode.

Example

The following example shows how to set the transmission interval to 10 seconds on interface g0/1.

Switch_config#interface g0/1
Switch_config_g0/1#keepalive 10

1.6 Configuring MAC Address Learning

Syntax

To configure the MAC address learning for a port (which cannot be applied on the ONU port), run switchport disable-learning.

switchport disable-learning

To return to the default setting, use the no form of this command.

[**no**] **switchport disable-learning**

Parameters

None

Default Value

None

Command Mode

Interface configuration mode

Usage Guidelines

The command must be configured in uplink port or PON port configuration mode.

Example

The following example shows how to disable the MAC address learning on interface g0/1.

Switch_config1#interface g0/1
Switch_config_g0/1#switchport disable-learning

1.7 Configuring Port Security

The port security configuration commands include:

- **switchport port-security mode**

- **switchport port-security dynamic**

- **switchport port-security static**

- **switchport port-security bind**

1.7.1   switchport port-security mode

Syntax

To set the interface security mode, run this command.

switchport port-security mode {dynamic | static accept| static reject }

To return to the default setting, use the no form of this command.

[**no**] **switchport port-security mode**

Parameters

None

Default Value

The port security is disabled by default.

Command Mode

UP interface configuration mode

Usage Guidelines

The command must be configured in the uplink interface configuration mode

Example

The following example shows how to set interface g0/1 to the dynamic port security mode.

Switch_config#interface g0/1

Switch_config_g0/1#switchport port-security mode dynamic

1.7.2   switchport port-security dynamic

Syntax

To configure the maximum number of MAC addresses when the port is in dynamic security mode, run switchport port-security dynamic maximum.

switchport port-security dynamic maximum *dynamic_number*

To return to the default setting, use the no form of this command.

[**no**] **switchport port-security dynamic maximum**

Parameters

Parameters	Description
count	The maximum address number that can be learned

Default Value

The number of MAC addresses that can be learned is 1- the maximum number of items in the MAC address table.

Command Mode

UP interface configuration mode

Usage Guidelines

Configure the command in uplink interface configuration mode.

Example

The following example shows how to set the number of that can be learned MAC addresses of port g0/1 to 3.

Switch_config#interface g0/1

Switch_config_g0/1# switchport port-security mode dynamic

Switch_config_g0/1#switchport port-security dynamic maximum 3

1.7.3　switchport port-security static mac-address

Syntax

To configure a static security MAC address, run switchport port-security static mac-address H.H.H.

switchport port-security static mac-address H.H.H.

To return to the default setting, use the no form of this command.

[**no**] **switchport port-security static mac-address H.H.H**

Parameters

None

Default Value

None

Command Mode

UP interface configuration mode

Usage Guidelines

The command must be configured in the uplink interface configuration mode

Example

The following example shows how to set MAC address 0001.0002.0003 to a static security MAC address.

Switch_config#interface g0/1
Switch_config_g0/1# switchport port-security mode static
Switch_config_g0/1# switchport port-security static mac-address 1.2.3

1.7.4   switchport port-security bind

Syntax

To bind a MAC address to a IP address, run switchport port-security bind|block {ip|arp|both-arp-ip ip-addr| ipv6 ipv6-addr | mac mac-addr }.

To cancel the address binding one by one or to exit the port binding state by cancelling all addresses on the port, run no switchport port-security bind|block {ip|arp| both-arp-ip ip-addr | ipv6 ipv6-addr | mac mac-addr}.

switchport port-security {bind | block} { [ip ip-addr | arp ip-addr | both-arp-ip ip-addr| ipv6 ipv6-addr] | mac mac-addr }*

no switchport port-security {bind | block} { [ip ip-addr | arp ip-addr | both-arp-ip ip-addr | ipv6 ipv6-addr] | mac mac-addr }*

Parameters

Parameters	Description	Value Range
ip-addr	IP address	A.B.C.D
ipv6-addr	Stands for the IPV6 address	X:X:X:X::XX
Mac-addr	Stands for the MAC address.	H.H.H

Default Value

None

Command Mode

Interface configuration mode

Usage Guidelines

The command must be configured in the interface configuration mode.

The port binding function is forbidden by default. However, if one address is bound, the port is then in binding state unless you use the negative form of this command to clear all bound address items.

Example

The following example shows how to bind IP address 1.2.3.4 to MAC address 0001.0001.1111 on interface g0/1 to decline the IP packets and ARP packets from the bound address.

Switch_config#interface g0/1

Switch_config_g0/1# switchport port-security block both-arp-ip 1.2.3.4 mac 0001.0001.1111

1.8   Configuring SVL/IVL

Syntax

To set SVL, run switchport shared-learning. To return to the default setting, use the no form of this command.

switchport shared-learning

[no]switchport shared-learning

Parameters

None

Default Value

VLAN IVL on the port

Command Mode

Interface configuration mode

Usage Guidelines

The command must be configured in the uplink port or PON port configuration mode.

P2P switch of ONU under the same PON port will be affected by the command. Its default setting is IVL.

Example

The following example shows how to set shared learning on g0/1.

Switch_config#interface g0/1
Switch_config_g0/1# switchport shared-learning

1.9   Configuring Link Scan

Syntax

To set the scan interval of an interface, run this command. To return to the default setting, use the no form of this command.

link scan {normal | fast} interval

no link scan [normal | fast]

Parameters

Parameters	Description
**{normal	fast}**	Normal means standard link scan mode. Fast means fast link scan mode.
interval	scan interval, unit 1ms, 10-1000.

Default Value

The scan interval is 500ms in standard mode by default.

fast mode, the default interval is 10ms.

Command Mode

Global configuration mode

Usage Guidelines

This command is configured in global configuration mode. The Fast mode is mainly used for cooperating with the protocol, for instance, RSTP. The Normal mode is mainly used for finding up/down.

Example

The following example shows how to set the scan interval of an OLT to 20ms.

Switch_config# link scan normal 20

1.10   Configuring System MTU

Syntax

To set the value of system mtu, run this command. To return to the default setting, use the no form of this command.

system mtu *mtu*

To return to the default setting, use the no form of this command.

system mtu

Parameters

Parameters	Description
mtu	Sets the value of system mtu, 1500-9216.

Default Value

The default mtu is 1500 bytes.

Usage Guidelines

Global configuration mode

Example

The following example shows how to set system mtu to 1800 bytes.

Switch_config# system mtu 1800